

## **REMARKS**

### **Summary**

Claims 1-35 stand in this application. Claims 4, 9, 20, 24 and 33 have been canceled without prejudice. Claims 1, 6, 17, 21, 27, 30 and 34 have been amended. No new matter has been added. Favorable reconsideration and allowance of the standing claims are respectfully requested.

Although Applicant disagrees with the broad grounds of rejection set forth in the Office Action, Applicant has amended claims 1, 6, 17, 21, 27, 30 and 34 in order to facilitate prosecution on the merits.

### **Allowable Claims**

We would like to thank the Examiner for indicating the allowability of claims 13-16, 28, 29, 34 and 35 if amended to include all of the limitations of the base claims and any intervening claims. Applicant respectfully submits, however, that these claims represent patentable subject matter as currently listed based on the amendments and/or remarks given for the independent claims as discussed in detail below. Applicant would like to respectfully reserve the right, however, to amend the allowable claims into independent form during further prosecution if warranted.

### **Claim Objections**

At page 2, paragraph 1 of the Office Action claim 27 stands objected to because of informalities. Applicant respectfully submits that claim 27 has been amended in

accordance with the instructions in the Office Action and now properly depends from claim 21. Therefore, withdraw of this claim objection is respectfully requested.

**35 U.S.C. § 101**

At page 2, paragraph 3 of the Office Action claims 1-5 and 17-20 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the non-statutory subject matter rejection.

The Office Action states that “Claims 1 and 17 fail to transform claimed methods of into tangible and concrete results.” Applicant respectfully disagrees. According to MPEP 2106(II)(A), the claimed invention as a whole must produce a “useful, concrete and tangible” result to have a practical application.

Applicant respectfully submits that the language of claims 1 and 17 provides a useful, concrete and tangible result. Claims 1 and 17 provide, in part, for determining a discrete transfer function...determining a target transfer function...and transforming any unstable poles and/or zeros...to stable poles and/or zeros.” Applicant respectfully submits that “transforming any unstable poles and/or zeros...to stable poles and/or zeros” as described in claims 1 and 17 provides a useful, concrete and tangible result. Furthermore, claims 1 and 17 recite “wherein said target transfer function represents a low pass FIR filter having a gain of about unity across substantially all of the frequency range of said FIR filter.” Applicant respectfully submits that a “target transfer function represents a low pass FIR filter” provides a useful, concrete and tangible result. As such, Application respectfully submits that claims 1 and 17, and any claims directly or

indirectly depending therefrom, are directed to statutory subject matter and removal of the non-statutory subject matter rejection is respectfully requested.

**35 U.S.C. § 103**

At page 3, paragraph 4 of the Office Action claims 1, 2, 4, 6, 7, 9, 11, 12, 17, 18, 20-22, 24, 27 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent Publication Number 2004/0008793 A1 to Mujica et al. ("Mujica") in view of United States Patent Number (USPN) 6,324,220 B1 to Sellars ("Sellars"). Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the obviousness rejection.

Applicant has cancelled claims 4, 9, 20, 24 and 33 and has incorporated their subject matter into amended independent claims 1, 6, 17, 21 and 30 respectively. Therefore, the obviousness rejections with respect to claim 4, 9, 20, 24 and 33 will be addressed below with respect to amended independent claims 1, 6, 17, 21 and 30.

The Office Action has failed to meet its burden of establishing a *prima facie* case of obviousness. According to MPEP § 2143, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success

must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 706.02(j).

As recited above, to form a *prima facie* case of obviousness under 35 U.S.C § 103(a) the cited references, when combined, must teach or suggest every element of the claim. See MPEP § 2143.03, for example. Applicant respectfully submits that the Office Action has not established a *prima facie* case of obviousness because the cited references, taken alone or in combination, fail to teach or suggest every element recited in claims 1, 2, 4, 6, 7, 9, 11, 12, 17, 18, 20-22, 24, 27 and 27. Therefore claims 1, 2, 4, 6, 7, 9, 11, 12, 17, 18, 20-22, 24, 27 and 27 define over Mujica and Sellars whether taken alone or in combination. For example, claim 1 recites the following language, in relevant part:

wherein said target transfer function is a low pass FIR filter having a gain of about unity across substantially all of the frequency range of said FIR filter.

According to the Office Action, the missing language is disclosed by Mujica paragraphs [0005] and [0021]. Applicant respectfully disagrees.

Applicant respectfully submits that Mujica fails to teach, suggest or disclose the above recited language of claim 1. Mujica at paragraphs [0005] and [0021], in relevant part, states:

[0005] In accordance with one embodiment of the present invention a way to overcome the issues and achieve a flat pass-band response, despite such effects, is to use a digital pre-compensation filter. Such a filter is designed to pre-distort the signal to ensure that the resultant signal, after passing through the entire path, achieves the desired frequency response.

[0021] In the design methodology of such a pre-compensation filter the goal of the pre-compensation filter is to offset the drop of the analog filter and also provide

part of the required stop-band attenuation, in the example that follows 30 dB of attenuation is targeted in the pre-compensation filter. Additional details for this example which is targeted at the ADSL over ISDN system follows. The cutoff frequency is 276 kHz and the stop band should start at around 300 kHz. This FIR filter should have less than 1 dB pass-band ripple and should use a maximum of N taps.

Applicant respectfully submits that Mujica, arguably, teaches using a FIR filter with less than 1dB pass-band ripple to pre-distort a signal to ensure a desired frequency response is achieved. By way of contrast, the claimed subject matter recites “wherein said target transfer function is a low pass FIR filter having a gain of about unity across substantially all of the frequency range of said FIR filter.”

Applicant respectfully submits that using a FIR filter with less than 1dB pass-band ripple to pre-distort a signal to ensure a desired frequency response is achieved is different than the above recited teaching of claim 1. Applicant respectfully submits that Mujica fails to teach, suggest or disclose at least “a low pass FIR filter having a gain of about unity across substantially all of the frequency range of said FIR filter.” Applicant respectfully submits that Mujica fails to even discuss the gain of the FIR filter.

Therefore, Mujica fails to disclose, teach or suggest the missing language. Applicant respectfully submits that Sellars also fails to disclose, teach or suggest the missing language. Consequently, Mujica and Sellars, whether taken alone or in combination, fail to disclose, teach or suggest every element recited in claim 1.

Furthermore, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. *See* MPEP § 2143.03, for example. Accordingly, removal of the obviousness rejection with respect to claim 1 is respectfully

requested. Claim 2 also is non-obvious and patentable over Mujica and Sellars, taken alone or in combination, at least on the basis of its dependency from claim 1. Applicant, therefore, respectfully requests the removal of the obviousness rejection with respect to this dependent claim.

Claims 6, 17 and 21 have been amended to recite features similar to those recited in claim 1. Therefore, Applicant respectfully submits that claims 6, 17 and 21 are not obvious and are patentable over Mujica and Sellars, taken alone or in combination, for reasons analogous to those presented with respect to claim 1. Accordingly, Applicant respectfully requests removal of the obviousness rejection with respect to claims 6, 17 and 21. Furthermore, Applicant respectfully requests withdrawal of the obviousness rejection with respect to claims 7, 11, 12, 18, 22, 26 and 27 that depend from claims 6, 17 and 21 respectively, and therefore contain additional features that further distinguish these claims from Mujica and Sellars.

At pages 4 and 5, paragraph 5 of the Office Action claims 3, 8, 19 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mujica in view Sellars and further in view of USPN 5,687,101 to Lee ("Lee"). Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the obviousness rejection.

Applicant respectfully submits that if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. *See* MPEP § 2143.03, for example. As recited above, Mujica fails to disclose, teach or suggest each and every element recited in claims 1, 6, 17 and 21. Moreover, claims 3, 8, 19 and 23 depend from these independent claims.

Applicant respectfully submits that Lee fails to remedy the deficiencies of Mujica identified above in relation to the independent claims. Accordingly, Applicant respectfully submits that claims 3, 8, 19 and 23 are non-obvious and patentable over Mujica, Sellars and Lee, taken alone or in combination, at least on the basis of their dependency from claims 1, 6, 17 and 21. Applicant, therefore, respectfully requests the removal of the obviousness rejection with respect to these dependent claims.

At page 5, paragraph 6 of the Office Action claims 5, 10 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mujica in view Sellars and further in view of USPN 5,386,590 to Dolan (“Dolan”). Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the obviousness rejection.

Applicant respectfully submits that if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. *See* MPEP § 2143.03, for example. As recited above, Mujica fails to disclose, teach or suggest each and every element recited in claims 1, 6 and 21. Moreover, claims 5, 10 and 25 depend from these independent claims.

Applicant respectfully submits that Dolan fails to remedy the deficiencies of Mujica identified above in relation to the independent claims. Accordingly, Applicant respectfully submits that claims 5, 10 and 25 are non-obvious and patentable over Mujica, Sellars and Dolan, taken alone or in combination, at least on the basis of their dependency from claims 1, 6 and 21. Applicant, therefore, respectfully requests the removal of the obviousness rejection with respect to these dependent claims.

At page 6, paragraph 7 of the Office Action claims 30-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over USPN 5,420,536 to Faulkner et al.

("Faulkner") in view of Mujica and Sellars. Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the obviousness rejection.

Claim 30 recites features similar to those recited in claim 1. Therefore, Applicant respectfully submits that claim 30 is not obvious and is patentable over Mujica and Sellars, taken alone or in combination, for reasons analogous to those presented above with respect to claim 1. Moreover, Applicant respectfully submits that Faulkner fails to remedy the deficiencies identified above with respect to claim 1. Accordingly, Applicant respectfully requests removal of the obviousness rejection with respect to claim 30. Furthermore, Applicant respectfully requests withdrawal of the obviousness rejection with respect to claims 31-33 that depend from claim 30, and therefore contain additional features that further distinguish these claims from Faulkner, Mujica and Sellars.

For at least the reasons given above, claims 1-35 are non-obvious and represent patentable subject matter in view of the cited references, whether taken alone or in combination. Accordingly, removal of the obviousness rejections with respect to claims 1-35 is respectfully requested. Further, Applicant submits that the above-recited novel features provide new and unexpected results not recognized by the cited references. Accordingly, Applicant submits that the claims are not anticipated nor rendered obvious in view of the cited references.

Applicant does not otherwise concede, however, the correctness of the Office Action's rejection with respect to any of the dependent claims discussed above. Accordingly, Applicant hereby reserves the right to make additional arguments as may be necessary to further distinguish the dependent claims from the cited references, taken alone or in combination, based on additional features contained in the dependent claims



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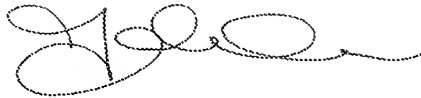
that were not discussed above. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences in the independent claims pointed out above.

It is believed that claims 1-35 are in allowable form. Accordingly, a timely Notice of Allowance to this effect is earnestly solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present patent application.

Respectfully submitted,

KACVINSKY LLC

A handwritten signature in black ink, appearing to read 'John F. Kacvinsky', with a long horizontal flourish extending to the right.

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John F. Kacvinsky, Reg. No. 40,040  
Under 37 CFR 1.34(a)

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